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RESEARCH PAPER

Non-industrial Private Forestry Service Markets in a Flux: Results from a Qualitative Analysis on Finland

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Abstract Previous research on European forestry service markets is scarce and mainly focused on analysing external market environment and modelling of timber selling behaviour of non-industrial forest owners (NIPFs). In this study, we aim to create a broader understanding about business perspectives of forestry service markets covering the whole array of market and institutional based services offered to the NIPFs in case of Finland. The more specific empirical objective of the paper is to describe market drivers and underlying challenges in existing and potential service business models based on the concepts of service-dominant logic and dynamic capabilities. Using a qualitative approach and 22 thematic expert interviews in service organisations, we strive to analyse the drivers and opportunities for creating new services within the NIPF market and also build insight in possible barriers for new service value creation. According to our results, the ongoing structural changes offer new opportunities to change traditional mindsets and search for new types of offerings that support the renewal of this traditional forestry sector. As one of the major barriers for new innovations we identified the dominant role of established organisations securing their current positions, mainly driven by the forest industry timber procurement needs. From a managerial perspective, the changing institutional base of the current service organisations may facilitate new innovative business start-ups in addition to enhancing the strategic capabilities and competitiveness of the established firms in Finnish forestry sector.

Keywords Forestry value-chain · Service innovation · Service marketing · Service dominant logic

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Introduction

Despite the turbulent changes in forestry markets, surprisingly limited research about the role of innovations in European forestry sector has been conducted (Weiss et al. 2011). According to Kubeczko et al. (2006), research should be focussed on product and service innovations, as these tend to create new income and employment in forestry and therefore contribute to rural development. Nevertheless, previous literature dealing with traditional roundwood-driven forestry service markets in Europe is scattered, particularly from the business perspective. Previously Buttoud et al. (2011) used three country case study settings in Europe to study broader framework conditions for learning and innovations in the forest sector, and concluded that both markets and policies work at the same time as drivers and barriers for change. Ingold and Zimmermann (2010) analysed internal and external factors related to organizational learning and innovation among a small set of Swiss forestry enterprises and concluded that the emerging provision of new ecosystem goods and services can be interpreted as the outcome of efficient organizational and inter-organizational learning processes. In a recent case study for Sweden (Lönnstedt 2012), nonindustrial private forest owners' (NIPFs) perceptions were explored from the triple-bottom line sustainability perspective and no obvious conflicts were found between NIPF owners economic and environmental responsibilities. However, at the same, the accrued benefits from environmentally and socially sustainable actions were assessed to be small among the owners.

The main purpose of this study is to investigate the Finnish forestry sector by making an overview of the markets and to analyse the drivers and challenges facilitating development of new service business offerings. Finland is an interesting target for research since forests are mainly (60 % of productive forest land) owned by NIPFs. On the buyer side there are only three pulp and paper industry companies, more than 170 major regionally operating sawmills and about 1,500 small sawmills (Rieppo 2010; Hänninen 2011a). The structural change in the private forest ownership occurring in Finland is one of the main drivers for changes in services demand. Existing research in Finland focuses on forest owners and their values (Karppinen et al. 2002; Hänninen et al. 2011) or on services in the markets in general (Sinkkonen et al. 2008). However, business and service innovation driven research in this sector is particularly lacking, emphasizing a need for studying the business logic of service providing organisations and their offerings from the customer (NIPF) value creation point of view (for a recent exception, see Hujala et al. 2013).

The values related to environmental surroundings are changing along with the structural change among private forest owners. According to survey based studies, typologies of forest owner categories have been developed and are currently focused on multi-objective forestry (30 %), recreation (24 %), self-employment (20 %), investing (16 %) and indifferent objectives (10 %) (Hänninen 2011b). Ageing, urbanisation and decreasing dependence on forest revenues, in addition to changes in the attitudes of forest owners towards their forest holdings (Leppänen 2010; Hänninen 2011b) have challenged service provision organisations to change their service offerings. Currently, the economic basis of family income is much more

detached from forestry income in Finland as a whole and a substantial number of forest owners are city-dwellers with different aims to those of a rural dwelling farmer, who is solely dependent upon production income from his/her forest land. As many forest owners, especially in the younger generation, are consumers accustomed to buying novel services, they may have rather high requirements towards service quality and availability. As another major factor for change, a recent complaint to the European Union (EU) about lack of free competition in forestry services is likely to eventually change the role and financing base of public organisations in Finland (see Kasanen 2011). More market-oriented organisations will probably emerge in the market, to expand their service offerings and to answer the emerging customer needs. In the highly competitive market, there is a risk that the services targeted towards the smallest and least profitable estate owners will be minimized because of their perceived inefficiencies.

Therefore, it is important to better understand how flexible the current forestry service organisations are in adapting to changes in order to see the potential for creating new service innovations as a result of shifts in the changing service expectations of forest owners. In our sectoral context, a decrease in the forestry activity of a group of NIPFs seems a priori to indicate that many of the current services offered in the markets do not create sufficient value compared to the associated economic or psychological costs within the context of the forestry service market. Overall, a better understanding is needed about the mechanism and logic of Finnish forestry service markets, including an analysis of barriers and opportunities existing in the market structures for customer-oriented service innovations.

Theoretical Background

The nature, role and economic viability of services have become an increasingly important research topic in developed economies along with the growing economic importance of services. Physical products are being increasingly embedded into large and complex networks of knowledge-intensive organisations. Such organisations entail designing, testing, re-designing and researching the dimensions of produce to build new demand driven outputs. Research interest in services, service innovations and value creation has evolved from various disciplinary backgrounds. A distinct area of service research has stemmed from business-oriented research into knowledge intensive services (Gallouj 2002; Miles 2005; Kuusisto 2005; Toivonen et al. 2007). In marketing theory, Vargo and Lusch (2004, 2006, 2008) and Grönroos (2008) have been vocal on the need for propagating a new service marketing discipline.[1] These issues have been discussed in studies on services under the topic of 'company driven inside-out view of the approach to one's markets' versus 'outside-in view of a customer driven service-company'. If the organisations in the markets truly have a customer-driven approach as a basic premise, there

[1] From the strategic perspective of the firm, Kim and Mauborgne's (1999) value creation concept would be, for example, another view to emphasize the key importance of information on customer needs in the process of firm value creation.

actually should not be a wide gap between the service supply and demand for these services. Instead, the forestry service offerings should already have been adjusted to the on-going structural changes among the customers (i.e. NIPFs).

The service-dominant logic (SDL) that was introduced by Vargo and Lusch (2004) offers an interesting viewpoint for this study. Forestry services have traditionally been driven by roundwood market needs and optimization of industry raw-material flows. They can therefore be classified to be more in accordance with goods-dominant logic (GDL) than SDL (Vargo and Lusch 2008). The fundamental difference between the supplier logic of SDL and GDL is also one of the major findings by Vargo and Lusch, and it offers and presents a case for mapping the new logic and the possible business opportunities also in the goods-driven forestry sector. According to the SDL, service is considered to be the fundamental driver of exchange. The physical goods are just the 'distribution mechanism' for the service provisions that usually enable the service providers to attend to the value creation process of the customer (Vargo and Lusch 2004). According to the view, a customer creates value together with the company that offers its tangible and intangible resources for the value creation process. Therefore, in order to add any additional value to the value creation process for a client, a service provider needs to offer those resources that enable or improve this process.

The resource-based view (RBV) describes the firm as a pool of resources (Barney 1991; Penrose 1995). These resources are strengths that can be used to implement strategies of firms by controlling the valuable, rare, imperfectly imitable and non-substitutable (VRIN) resources so that it is possible for a firm to gain sustainable competitive advantage. Vargo and Lusch (2004) have divided tangible and intangible resources into operand and operant resources, where the former refers to production units and the latter refers to knowledge and information about how to combine operand resources, i.e. capabilities. It is also possible for a firm to widen its resource pool by cooperation with other organisations (Eisenhardt and Schoonhoven 1996). Customers also use their own networks to acquire the resources needed.

Following SDL, all social and economic actors can be thus understood as 'resource integrators' (Vargo and Lusch 2004, 2006), that combine the elements of exchange to produce a new system of value delivery. Interpreted within a context of sectoral innovation system (Kubeczko et al. 2006), it is crucial to create a system that is capable of generating improvements also in the existing services because it is increasingly difficult to create and maintain sustainable competitive advantage in a highly networked world. Thus, the resources and capabilities of one's own network and its broad spectrum of stakeholders form a natural basis of the RBV-competition. In simpler terms, this means that the value of an offering perceived by the client dictates the client's willingness to pay for it, but the logic of value creation cannot always fully be understood, or dictated, by the producer. There is also earlier research that describes how customers often use products in very different ways to those initially intended by the producers (e.g. von Hippel 2005). Further, as many service innovations are born out of these realisations of customer usage and customer needs, it is more critical to understand the value production for the customer instead of the identifying sources for increased efficiency of the productions systems as such.

In line with SDL, service providers and customers combine their resources in the value creation process, so the resource-based view should be widened to understand the resources held by the customers (Gallouj and Savona 2010). Heinonen et al. (2010) have widened the perspective into customer dominant logic (CDL). Not only are resources of a customer regarding a service described by those authors, other activities of the customer and life as a whole as a primary driver of business interaction, have been covered. This notion might sound insignificant as the CDL does not describe the basis or the logic behind the philosophy, but views it as a socially conditioned or subjective process.[2]

Data and Methodology

The research method was qualitative in its approach. Maxwell (1996) describes the qualitative method as suitable for understanding meaning, context, and identifying unanticipated phenomena. These characteristics influence the generation of new theories and understanding of the process by which actions take place and thereby assist the development of causal explanations. Although the qualitative method can only offer references for a basis of an interpretation, it can increase the understanding about a phenomenon, if implemented thoroughly (Saaranen-Kauppinen and Puusniekka 2006). The qualitative interview method is well suited to the currently unstable market situation where no statistical data exists and the broad line of the stakeholder attitudes are not so easily quantifiable.

For background information, the general overview of the current Finnish forestry services markets by Mattila (2010) was used, based on a qualitative case research and content analysis of online and printed service marketing materials, incorporating 13 themed interviews of field experts in 2009-10 that represented the spectrum of professional service organisations including the whole spectrum of forestry service organisations: entrepreneurs, banks, insurance companies, forest management associations (FMAs), forest centres, forestry development centres and large scale forest industries. These interviews were not recorded but notes were written during the interviews. Results from these 13 themed interviews that described the market situation of that moment were used as secondary data to build a questionnaire for the second stage. In the second stage, nine interviews were conducted in 2011 among different service operations (Table 1): three interviews with the private forestry service enterprises, one with the forest management association, one with an information technology company, one with a large-scale forest industry company, one with a land use manager of churches, one with a wood procurement company and one with a forest machine entrepreneur.

The questions in the second stage were more concentrated on: the networking activities; expected changes in market demand; how services are developed and the

[2] Why we use the term SDL stems from a view that SDL was originally meant as an axiomatic argument as the basis of marketing theory where the service dictates the value and also drives the exchange. Whether in value creation it is a subjective psychological process, a dyadic process or a socially conditioned process, is not the issue. The realisation is that exchange is driven by the instrumental aims of achieving something else through that exchange (e.g. Berghäll 2003).

Table 1 Second stage interviews for this study

Anonymous 1	Forestry entrepreneur	Jun 2011
Anonymous 2	Executive manager, forest management association	May 2011
Anonymous 3	Managing director, information technology company	Sept 2011
Anonymous 4	Owner relations director, large-scale forest industry company	Mar 2011
Anonymous 5	Forestry entrepreneur	Sept 2011
Anonymous 6	Land use manager, churches	Aug 2011
Anonymous 7	Executive vice president, wood procurement company	May 2011
Anonymous 8	Forestry machine entrepreneur	Oct 2011
Anonymous 9	Forestry entrepreneur	Oct 2011

consequent changes in the market environment; and finally, analysing the potential for the SDL approach behind currently existing and emerging new services among service providers—i.e. what are the main drivers and barriers behind adopting the service dominant approach. The main objective of these nine interviews was to thus identify themes for potential new signals to forthcoming changes, so that the possible directions could lead to better understanding of the presence and potential of service-dominant logic in the organisations.

The length of these interviews ranged between 0:37 h and 1:54 h, with a mean of 00:55 h. Thematic interviews except one (Anonymous 5) were recorded. Interviews were transcribed, and discussions were analysed using theory driven thematization in order to find citations that could be used to give an authentic voice to interviewees. The transcribed interview citations were categorized on the basis of services and service provider classification, and their underlying approach—whether it was more goods- or service-dominant—was analysed from the transcriptions in order to find illustrating examples. There was no need for any deeper classifying because the data was rather small, but nevertheless, at the end of data collection phase, no new themes were found to emerge, so saturation of data was reached.

Themed interviews were started with the interviewee giving a basic description of her or his particular organisation to induce the free flow of speech. Since this approach was clearly perceived as being intrusive by one of the interviewees, the generality of the purpose of the study was stressed in the later interviews. Apart from this, the main objective was to explore the current general situation and development needs in the forestry service market to identify existing barriers and opportunities, rather than to focus on the identification of existing strategies of individual companies. During the study process, the interviewees were asked to describe the markets from the viewpoint of their own strategic group: for example from the viewpoint of a forestry service enterprise. This encouraged people to talk more freely. The other themes the interviews covered were recent changes that had happened to the organisation, service assortment, networking, competition and market environment, and demand and customers ("Appendix"). In general, private entrepreneurs were the most forthcoming about describing obstacles and new ideas

to organise the markets, whereas those organisations with a more established basis talked about these themes with more caution.

At the final stage, the information from the qualitative analysis was connected and combined with a summary description of the markets that was based on the 13 interviews conducted earlier, as well as with documental analysis of the forestry and service providing organisations, together with the available information on the services on institutions' websites and in customer magazines.

Results

Forestry Services and Service Organisations in the Finnish Markets

Based on the 13 first stage interviews and documental search in 2010, the service classification developed in the study is shown in Table 2. Based on Table 2, the service offerings related to immediate monetary flows are in Finland mainly offered by private organisations, whereas services whose profits would be realised in the more distant future are left for publicly financed institutions. Market oriented organisations usually offer almost all the services to enable offering full service packages.

The long rotation of Finnish forests gives rise to NIPF short-term cash-flow and liquidity problems. Forestry service organisations have partially answered this liquidity problem by creating service packages that combine some roundwood sales or exchange with other forestry operations. However, this bundling is from the lack of resource point of view more difficult for the smallest estates, and bundling all the possible services under one single offering may also blur the image of the service organisation. However, there are also opportunities related to this challenge because of the generational change that is on-going among forest owners. Although the new generation of owners forests may not be that familiar with forests as a property, these owners can be more experienced buyers of services and consequently understand that there are no free services. On the other hand, technological developments will decrease the transaction costs, and as a consequence services will

Table 2 Service categories offered for forest owners

Service category	Definition	Private/public
Forestry operational services	Managing forests	Private/public
Wood trading services	Services that aim to convert wood into money equivalents	Private
Property administration and management planning services	Planning the usage of the forests; financial assistance	Private/public
Information services	Education and extension of forest owners to enable self-employment; better understanding of basis for buying services	Public

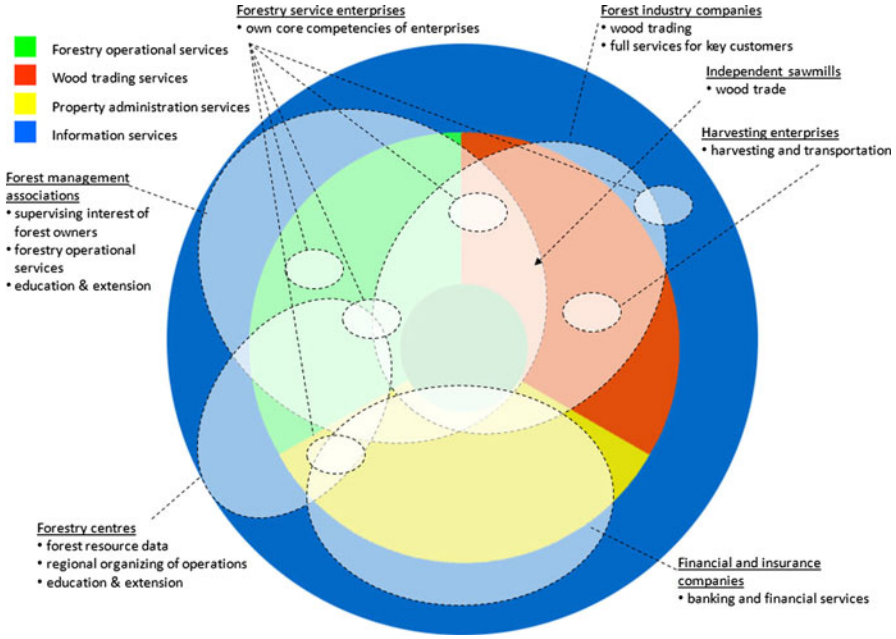

Fig. 1 Operational focus of main service organisations in the Finnish forestry service markets

be more readily adopted by the young and newly started forest owners. Nevertheless, the owners of small estates might again have different needs regarding their forests since forests may not play a very important role in their property holding portfolios. Whatever is the case, changes in the public financing of forest organisations entail the restructuring of the whole forestry service markets as key services such as forest planning information will be more freely available.

Figure 1 shows the overview of current service organisations and how they are positioned in the Finnish market in relation to their service offerings. As can be seen, there are some overlaps in the service offerings especially in the roundwood trade. Banks and insurance companies do not compete with other types of forestry service organisations but rather they supplement their respective service offerings. Small forest service enterprises usually have their own core special competency and they are highly networked. Forests continue to be transferred via legacies to owners who live far away from the estate or they are co-owned by joint heirs. Consequently, it will be more difficult for local actors such as entrepreneurs and small sawmills to get in touch or maintain contact with forest owners. These forests are likely to be left untouched altogether or the owners are served by organisations able to contact forest owners wherever they live.

Service supplier organisations differ substantially from each other in terms of size and institutional background. Some of the service organisations are market oriented private firms whereas others are publicly financed and their activities are

based on national policy.[3] While the existing services in the markets differ from each other substantially, a commonly used practice is to connect additional services to the roundwood trading. In the end, this is the main reason for many of the forestry service providing organisations to be in the market. For an average forest owner, selling roundwood is also almost the only "service" that brings in financial revenue from his/her forests.

There are coherent full service packages available in the traditional forestry in Finland that range from planning and forest management to management of the roundwood trade. This range is offered by industrial and forest owners' associations, which can be complemented by individual services offered by entrepreneurs. The largest service organisations thus act as resource integrators by offering a package that is easy to buy especially for that segment of forest owners who have no resources to be active either by searching for service providers or by doing the operational work by themselves. They also organise operational work, usually by subcontracting smaller scale entrepreneurs. Although service integrators exist, no widely used transparent platform or open marketplace is yet available for all the forestry services. Property administration services seem to be slightly separated from other services. In Finland organisations that do property administration services as their core services do not typically offer full-scale service packages regarding forestry.

Service Providers' Perceptions of the Changing Market

In the second stage, the analysis is complemented by insights from another round of expert interviews and interview data is analysed qualitatively using theory driven thematization. Table 3 summarises the drivers and challenges of the markets mentioned in the interviews. The change triggered by institutional reforms is already going on but there seems also to be many obstacles that can reduce the possible effects of the renewal.

When forest activities are considered, about 45 per cent of forest estates in Finland have a forest management plan (Hänninen et al. 2011), and such planning greatly affects the operations to be done. The planning of operations can have a multitude of objectives that range from timber production to nature conservation. Furthermore, although there are plenty of services targeted towards silvicultural and forest management operations available on the Finnish markets, these services mainly aim at growing forests in a traditional even-aged management way with the emphasis being on maximising the sustainable yield per unit area. However, desire for more continuous cover and 'soft treatment' oriented forestry services is expected to become more common along with forest owners having less available time, capacity, and required machinery to implement the work by themselves. Although new services and working methods have developed: '…basically the tasks are still done in the manner that they were done in the 1980s' (Anonymous 3).

[3] The contact information of a forest owner has been available for marketing starting in 2012, if a particular forest owner does not actively prohibit it (Finnish Act… 2011).

Table 3 Drivers and challenges of the Finnish forestry service markets

Drivers	Challenges
Institutional changes (FMAs, forest centres) → consolidation process may lead to more significant roles for FMAs as intermediaries	Difficulty to develop easy and attractive service packages suitable to different kinds of NIPF value segments
Changes in demand (fragmented demand among private forest owners: different buying patterns, lower dependence on wood supply income, mental alienation from traditional forestry)	Competition faced by emerging small scale service enterprises too hard
	Lack of workforce to implement operational work (e.g. in silviculture, harvesting)
Emergence of novel market platforms (e.g. using ICT)	Low technology orientation and slow adoption
	Dominant goods-based logic slow to change towards service-dominant logic

Currently, a major objective of clear-cut based forest management which dominates in Finland is to convert standing trees into money by meeting the industrial needs for raw material. This is also the principal reason to enter into the value creation process for the forest owner. However, in the changing socio-economic background and urbanization of NIPFs, the importance of the wood trade has become less crucial in the value creation process of some forest owners. While it appears that this change has not affected the search process for affordable low-cost raw material by the industry, it does seem to be changing the practices of buying. Thus, the diversifying NIPF needs have already forced industrial organisations to rethink and redefine their service offerings in order to attach new driving values to their roundwood procurement.

Some NIPFs may not even perceive ownership of a forest as amounting to financial property or be interested in timber sales, which suggests that just owning a forest may be enough to bring in value for them. *[Forest owners with no contact with forests]* '… are not interested in selling it, either. It just stands there. It is not any big pain, just a forest staying somewhere there' (Anonymous 9). 'It (Forest owning) becomes like; how could you say it; faceless' (Anonymous 8). From the SDL point of view, however, the economic approach may not be the best one to that particular segment of forest owners.

For the most part, the commercial roundwood trade seems to be somewhat sensitive due to the dominance of three big companies in Finland with a recent history of cartel accusations, and currently there are not many organisations able to only buy wood and sell it in the markets for processing. 'We didn't participate in the wood trade, because it already has actors.' (Anonymous 9). 'Large-scale forest industry companies want to have the whole repertoire, they want to dominate the service package and be the only partner to a forest owner' (Anonymous 8). 'Those large-scale forest industry companies have announced that they want to keep the roundwood trade in their hands' (Anonymous 8). 'We have been avoiding this wood trade. The industrial buyers do not like intermediaries too much' (Anonymous 1).

If development of forestry services takes a similar path as that taken by many other businesses serving private households, there will be more demand for those services that are easy to find, easy to buy and are trustworthy. This was illustrated by

one interviewee as: 'Easiness is the thing. It changes a bit as forest owners become younger and move to the city. If you think of us, we want to get everything from one place and with one contact' (Anonymous 7). Further, an open platform can attract other non-competitive network members to join and to implement the promised services. This would widen the service assortment in the market. Thus, the future seems to reflect a network integrator driven forest trade setting and institutions that are capable of being at the forefront of the task may have some advantages when the markets are in a flux.

The role of forestry centres is important as regionally, they have become a link between the forest owners and the local entrepreneurs by offering an electronic marketplace for forestry operations and also by organising education events and cooperating with local entrepreneurs. One significant change related to the services provided by the forestry centres is a change in the use of forest inventory information. However, some strong local forest management associations have even begun to organise the competing services for forest management planning or organise regional projects on a comparable basis to those services offered by forestry centres. The capability of forestry centres to serve all forest owners seem to be limited, as highlighted by the following comment: 'Although our (forest management association's) forestry management planning is much more expensive (than that provided by forestry centres) we have to set back our marketing every now and then, because our staff do not have enough time to do all the planning. It is so much about the extensiveness and the quality and the locality in these decisions' (Anonymous 2). In the future, there is also a risk that forestry centres will lose their markets in forestry planning, because 'people think they already have a forestry plan' (Anonymous 3), when they get a forest stand information announcement.

Finish FMAs are organisations (103 in 2012) which provide many operational services and which supervise the interests of forest owners. Forest management associations fulfil their statutory duties of ensuring the availability of professional assistance in forestry activities all over Finland. In addition, forest management associations offer a large variety of services depending on the resources of a single association and the needs of local forest owners. These services are mostly operational work, planning and supporting services in the wood trade. From the SDL point of view, compulsory duties of FMAs aiming at producing wood are not necessarily an organizational strength. This current FMA membership charge constraint is the most criticised factor related to forest management associations: especially by small forestry service enterprises, as the following quote illustrates: 'When the same people are in the charge of a local forest management association and municipal management, there are no chances to have any real competition that respect the law governing publicly funded purchases' (Anonymous 1).

Outsourcings of operational work in forest management associations have increased the need for maintaining work quality controls: '…When our own men are working the quality problems are only a fraction of that in other groups' (-) 'This has increased the need for supervising. Now, when everything is outsourced, we still have to go there more than imagined' (-) 'the problems have been multiplied' (Anonymous 2). Forest management associations are also active in the process of

introducing an electronic market place for the roundwood trade. This electronic market service would especially serve those forest owners who want to compare different offerings just as tourists want to compare flight tickets nowadays. As an obstacle, 'there always is this old-fashioned way of thinking about who is controlling the roundwood trade' (-) 'although ensuring the raw material flows and a stable roundwood trade would be a common advantage to everyone' (Anonymous 3).

In comparison, large-scale forest industry companies offer full service packages that mainly focusing on the NIPFs owning large forest estates. It is thus assumed that the private forest owners with the largest estates are usually the most profitable customer segment, since personal selling is still the predominant method despite its associated costs. Although personal selling is effective and knowing the local customers well can be defined to be close to the SDL-mindset, it is also costly. Until now, the large-scale forest industry companies have built their services assortment around their own core activities, the principal one being to buy wood. When reviewing information on their service offering at company websites and customer magazines over the past 3 years, it seems that all the possible values, even the intangible values, are being attached to their highly similar full service packages. It must be questioned, whether mass-marketing of this kind, which promises everything to everyone, is in the end highly believable.

All in all, the large-scale forest industry companies have directed their services towards the changing circumstances that are dictated by the new segments of NIPFs as they provide both extensive personal services in addition to good web-based services prepared for the young NIPF generations. Easiness in services seems to be a key service promise. 'It is about productization. The one who is able to offer the best package is the most understandable: here you get such and such things in a very simple way.' (Anonymous 3). By offering full service packages the big forest industry companies can act as 'resource integrators'. This can take the form of offering a simple, branded completeness to a forest owner and by organising the operational work (non-visible to the customer). In addition, medium, large and small sized sawmills exist independently of pulp and paper companies, buying wood from local forest owners and producing sawnwood, chips, sawdust and possibly heat and power in their plants. Some of them have also recently started to develop their forestry services in a more versatile way.

There are about 600–700, micro-level forest service enterprises in existence. These are usually small companies that offer specialized services around there area of expertise (Rieppo 2010). This business segment originated as a consequence of large-scale outsourcings happening in forestry centres, forest management associations and industrial companies in the 1990s. Anonymous 9 bitterly criticised the nature of entrepreneurship in Finnish forestry as follows: 'Entrepreneurship in forestry is usually perceived like this: there are some jobs that an entrepreneur does, sweating his guts out as, much and as cheaply as possible. That's where the income comes from. The concept of the business idea is forgotten, but without an idea there is no point in starting a business. Certainly, a business idea can be working a lot and get some salary, that's it. However, we are talking about expectancy-based entrepreneurship. Then you have to be able to integrate, let's say databases, information technology, services business, societal change and other branches with

the opportunities that already exist among them. Then, we are talking about a business idea. When we are talking about entrepreneurship in the forestry sector, then all this is usually forgotten'.

The small forestry entrepreneurs do not necessarily have the resources to offer full service packages extensive enough for those forest owners who seek the easiest solution and the price-conscious segment may not be as profitable. Another barrier may be that a traditional forester does not necessarily have the skills for using information technology that is needed in business. Those who do have these skills may not be believable enough from the bigger customers' point of view. 'Again we come to the problem that a single engineer from some small firm does not bring a believable scope of services' (Anonymous 1). Another problem is related to the data acquisition costs of forest planning. 'If an entrepreneur is working in a large area in Finland, the problem is the map licenses. They are expensive for such an enterprise working in a large area. Tools (software) we would have but it is more about annual payments for the licenses. We cannot influence that because they are priced by the National Land Survey of Finland' (Anonymous 3).

Because of the problems mentioned above and their history, a large portion of the forestry service enterprises comprises small sub-contractor 'forester' firms. They carry out the operational planning and implementation of the practical work but their work opportunities are often shared out by bigger organisations. Even though local alliance networks could often be a means to aid the bargaining position of the forestry service enterprises, this organisational form requires an active local player to sacrifice resources for network building and maintenance.

In the field of harvesting, requirements for an entrepreneur are rather high with realistic financing knowledge being important: 'Quite a lot of knowledge is required. If you want to be an entrepreneur, you must know the economic side but then you also must have this forestry knowledge, so I see that the smaller the company the more it is very personally-driven' (Anonymous 8). Nonetheless, the probability of creating a successful business is not that high when operating as a subcontractor for big industrial customers or organisations that maximise forest owners' profits. Some trials of joint enterprises between some forest machine chains have been successful. However, regardless of the opportunity to become success stories the probability of coaxing new talents to these markets is not high. The optimisation of operations is outlined by a tenderer. 'Earlier, one tenderer contracted with a specific group of entrepreneurs. Usually there were a few more entrepreneurs than working opportunities and they were not evenly dealt out for all. Now however we can decide by ourselves whether or not we take another entrepreneur into the network. This enables optimising the jobs better than earlier. We don't take on an oversupply of entrepreneurs but secure the transportation reliability' (Anonymous 8).

'If there is no desire to control the markets among forest machine enterprises, there could be some opportunities for intensification, concentrated harvesting, for example.' (Anonymous 2). This would mean that in order to minimise the logistics costs, all of the harvesting would be done by one regional operator. Consequently, all the timber buyers could buy the services from this one player instead of having several machine chains operating along one single forest road. This is maybe one of the most obvious ways to improve efficiency in the current markets.

Finally, also banks and insurance companies offer the services of forestry property administration. These services mainly assume forests to be a part of other property and are evaluated in purely monetary terms, connected to the larger scale forest owners. Banks and insurance companies are not interested in forestry operations *per se*. Nevertheless, they cooperate with other organisations in the sector both to offer a wide variety of services and to attract new customers. For example, foest insurance has been a growing business with the assistance of recent storm outbreaks in Europe.

All in all, forestry services in Finland seem to have a somewhat narrow scope with the principal aim being to increase the efficiency of wood production and address the lack of services related to multiple use of forests, as illustrated by a following quote: 'People want to keep their forests growing and there are no necessities to sell' (-) 'People consider their forest as a bank. They don′t have to sell it. There should be a very good reason to clear-cut the backwoods that is swaying there and is beautiful to look at—and have to wait for another 80 years until it is there again after the cutting' (Anonymous 3). There seems to be value creation that service organisations are unable to participate in with their current offerings.

Further, even though the scope is limited to only the products with an expected market price, it seems the roundwood trade will still dominate as a core market activity. For example, non-wood forest products (NWFPs) are usually excluded, because a forest owner does not typically get any profits accruing from NWFP enterprises. The needs of forest owners are not identified when concentrating on the former traditional ways but which are no longer traditional for all of the owners. 'It has been clear how to organise Finnish forestry: buy wood and push it through the markets.' (-) 'Now, the situation has changed. There is an urgent need for new business ideas' (Anonymous 9).

Large, established organisations appear to keep thinking that everything related to industrial forestry is their core business and it is not to be outsourced to smaller players, as the following quote shows: 'Co-operation, partnerships and subcontracting between different companies is learnt surprisingly slowly in the forestry sector. … There are many of those publicly financed organisations that are not necessarily willing, or it is foreign to them to operate in the way that small companies interact with each other. Small companies are basically constantly searching for benefitting partnerships: to get more trade without requirements for learning something new.' (Anonymous 9).

Consequently, the traditional roundwood-trade driven market seems to be challenging for open-minded entrepreneurs with innovative new ideas. 'We don't have those empowered and dynamic middle-sized companies that really are willing to develop their operations. This means that there are no customers for small companies' (Anonymous 9). On the other hand, expert services are usually difficult to sell: 'It is difficult to invoice for expert services in Finland, but that is a more common problem concerning not only forestry. In practice you have to bundle such invoices along with other transactions relating to the wood trade' (Anonymous 9).

Connections to other industry branches are also limited. For example, when compared with the Nokia driven information technology sector in Finland, dynamic exchange between other businesses in forestry is rather slow. This results in a slow speed of 'creative destruction' (Schumpeter 1934) that has a clear link to renewal and innovation. 'There is a need for thinking what could be offered outside traditional forestry. Is there potential for any new types of businesses? This is too much of a clique' (Anonymous 9).

Those few entrepreneurs with a new kind of business idea are faced with the problem of lack of critical mass: 'Our innovation system has favoured the big players. In practice, there has been not too much effort supporting the birth of smaller players' (Anonymous 9). As one respondent noted: 'I hope these changes lead to more active networking between these new and forthcoming companies. We don't have these middle-sized companies, instead we actually have organisations that fit this category such as: forestry centres and forest management associations. They would be able to boost these new companies if they had the desire to do so' (Anonymous 9).

Discussion and Conclusions

Although the qualitative interviews were only able to give some examples of topics that should be considered in the flux of the forestry service markets, some interesting drivers and challenges were found. Traditions of optimizing raw material flows seems to be deep in the organisations premises and because regeneration in the sector is rather slow both among forest owners and service providers, there is still much to do in order to get the SDL-mindset to be the fundamental basis of the companies operating in the sector. It was rather difficult to try to analyse a logic that does not seem to exist in the markets in large scale. It is not even evident that the SDL is suitable as a mindset to the organisations in the forestry services sector. By including the SDL-viewpoint to the service development of the organisations, it could result in much larger spectrum of services, which could activate that part of forest owners who do not find any attractive services and organisation from the current markets.

In summary, the structure of the Finnish forestry service markets is in a flux due to both institutional and market driven changes. The service market is also expected to become more competitive in the future due to better availability of forest resource information and liberalization of FMA membership fees. The increasing competition in the Finnish forestry service markets increases the need to better meet the needs of the more demanding but currently less active forest owners with the provision of ready-made service concepts (see also results in Hujala et al. 2013). Consequently, organisations in the field need to reconstruct their business models to be able to provide better services to meet customer needs.

Current services available in the Finnish forestry markets seem to serve well those forest owners who are predominantly interested in industrial roundwood production, and any new services coming on the markets are filtered through the established organisations. Since existing services have substantial potential to

develop into new service businesses, they are also of focal interest to the creation of new competitive dynamics in the forestry sector, which will induce the participating organisations to restructure their business models. The identification of opportunities for enhancing customer value by designing new service portfolios is sought through the improved recognition of these drivers and challenges.

Regardless of the previous limitations, there are some services in the market that approach forest utilisation with an all-embracing view. For example, web-based maps and GPS services are being offered for use to hunters and other recreation users of forests for planning their activities. These kinds of services do not necessarily bring monetary benefits to the NIPFs directly, but there is the possibility that free and easily reachable forest related material could enhance the owners' benefits through environmental and recreational values. Increased activity in forests might even create new markets that are profitable for forest owners 1 day. Moreover, by offering platforms for sharing information it will be possible to track on-line the ideas that interest people.

Much of the public resources have in the past been devoted to the activation of passive forest owners in Finland in order that they increase their propensity to sell timber. While the share of these passive forest owners is on the rise, it will be increasingly difficult to optimise industrial raw material flows and keep transaction costs low in the roundwood market. The system is also very inefficient in transmitting quality based customer information through the value chain.

From the viewpoint of SDL, the forestry organizations' focus on production chain optimisation and increasing efficiency of roundwood trade is not the optimal way to develop new service offerings. There is either lack of ability to attend to value creation with a current service assortment or lack of knowledge of the needs and wants of a segment of forest owners. Also the lack of a broader vision in management, and the structural weakness of having so few medium-sized companies operating in the forestry service markets create a vacuum, where the full potential within-value networks is difficult to materialize. However, from an institutional perspective, the new business opportunities are heavily dependent on foreseen EU requirements for free competition, which is likely to change the financing base of public organisations in the Finnish forestry services. Even so, the smallest NIPFs will likely remain as the least lucrative market segment, and will be served with the least developed service offerings without acknowledging their specific customer needs. Although many services are already supplied by networks of service organisations, it seems that all the potential within value networks has not been fully captured. This is especially the situation when it comes to adopting business ideas that would shatter the status quo in the roundwood trade driven market structure.

Aging, fragmentation and the emergence of passive NIPFs are commonly mentioned as the key challenges in the Finnish forestry sector (see e.g. Hänninen et al. 2011). Based on our analysis, it however seems evident that there are perhaps even more significant barriers to functioning forestry service markets in Finland existing on the supply side of markets, which are not fully capable of adapting to the changes in fragmenting NIPF values and ownership structure. As a consequence to the diverging ownership attitudes and needs, a mismatch between services offered

and the interests of especially smaller scale forest owners has resulted, and is likely to only widen in the forthcoming years unless sufficient resources can be devoted to the identification of genuinely customer driven service offerings.

From the marketing and managerial perspectives, easy access and user-friedliness in buying services are key advantages regarding the roundwood-market driven forestry services in Finland. Large-scale forest industry companies successfully cover a significant part of the numerous NIPFs and they have sufficient resources for developing and maintain their service offerings. Local sawmills, on the other hand, will face increasing challenges when a commercial connection with a forest estate is lost upon a change to remote urban ownership. By offering an open marketplace to innovative entrepreneurs it might be possible to attract and motivate forest owners to attend to their forestry holdings. In the current setting it, however, remains uncertain what type of services would exactly be on demand or how such services would be utilised without a costly process of trial and error. Despite this, current organisations seem to have no difficulties in outsourcing the trial and error process and market risk to entrepreneurs by creating a distribution platform for trials. However, instead of copying ideas from there, it might be fruitful to buy the ideas to make the fragmented service branch more attractive for entrepreneurs to create new services. If new ideas are adopted by the forestry services or by services related to forests, the resulting broader customer orientation in an organisation could emerge. Value generated from forests could also be understood in a broader ecosystem wide sense (see e.g. Ingold and Zimmermann 2010) than from the currently emphasized perspective of roundwood market driven model in Finland.

In conclusion, from the viewpoint of developing service innovations, the dominance of a few, very traditional large-scale players in the Finnish forestry industry is a weakness as there are too few openings for new small-scale players to successfully enter the forestry service market. Therefore it would also help if the publicly financed organisations were more willing to adopt and buy new ideas from the small-scale entrepreneurs.

The paper has contributed to the scarce literature on business perspectives regarding forestry service markets in one leading forestry rich country in Europe. Our findings confirm the potential applicability of the Vargo and Lusch (2004, 2008) service dominant logic model in forestry service business in a changing market environment. Therefore, in future studies, it would be of interest to apply the same theoretical approach to also other markets and regions. As importantly, in case of Finnish market, a large-scale quantitative investigation of the diversifying customers' service perceptions among private and municipal forest owners would seem worthwhile in light of ongoing market and socio-economic changes among the NIPFs.

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Appendix: Questionnaire for Thematic Interviews

Organization

- How would you describe the activities and background of your organisation?
- From where and how did the business idea originate?
- Are there similar organisations in the market?
- How does the cyclicality of forestry affect the need for diversity and flexibility in your business?
- What kind of changes has happened in your organisation recently?
- What kinds of challenges have you faced?
- What kinds of untapped opportunities/openings for networking can you imagine?
- Who are your main customers and is there any segment you are not interested in?
- Why are you the most interesting actor/organisation for a forest owner?

Services

- How would you describe your service assortment offering(s), the origins of them and any recent changes?
- What did you create first in the markets?
- Who else are active in reforming services?

Demand

- What kinds of changes have happened among forest owners and in demand?
- How many opportunities are there for forest owners attending to service processes?
- Are the changes more towards service packages or to tendering single transactions?
- What kinds of changes are there in other service buying habits?

Networking

- Who are the most important actors in your business?
- What kinds of networking partners do you have and are there any excluded partners?
- Who do you think would be an interesting partner?
- Why would you be the most interesting one?
- In what directions could you expand your customer base through networking?
- How do you describe the power of the organisations currently in the market?
- What kinds of opportunities that are there that are not dependent upon the wood trade?
- What kinds of opportunities are there to expand or cooperate with actors outside traditional forestry?

Competitive environment

- What are the most remarkable changes that have taken place in the competitive environment?

- What are the reasons behind them?
- What kinds of new players have emerged in the markets?
- What are biggest challenges for your branch?
- How would you describe the openness in the interaction between yours and other branches?
- What should be changed in the markets or what would you change?

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